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Case No. 2130

REMARKS35 USC Section 103 Rejections:

Claims 29-31, 33-41 and 43-48 were rejected under 35 U.S.C. 103(a) as being unpatentable over Yokozeki et al. (USPN 5,981,063) in view of Ghosh (USPN 6,149,927).

With respect to claim 29, the Examiner submits that Yokozeki et al. teach the claimed invention except for a binder material that is selected from the group consisting of melamine formaldehyde resins, acrylic resins, permanent press resins, pvc/vinyl chloride copolymers, ethoxylated polyester, and mixtures thereof.

The Examiner states that Ghosh is directed to biocidal compositions (Abstract) and teaches that nets (col. 7, lines 5-7) can be used in conjunction with a biocide and binder. In particular, Ghosh identifies conventional binders suitable for binding a biocidal composition to a fiber net as polyvinyl chloride and acrylic resins (col. 7, lines 18-28). Since both Ghosh and Yokozeki et al. recognize the utility of employing a binder for the purpose of affixing a biocidal composition to a fiber substrate, the Examiner believes it would have been obvious to one of ordinary skill to have used a binder made of pvc or acrylic resin with the biocide composition disclosed by Yokozeki et al.

With respect to claim 29, the Examiner further states that although the references do not explicitly teach that at least one portion of said treated substrate retains at least 50% of said adhered finish after 10 washes as performed in accordance with the wash procedure of ATCC Test Method 130-1981, said limitations are expected from the combined disclosure of Yokozeki et al. and Ghosh. Support for said presumption is found in the use of similar materials (i.e. a substrate coated with a metal ion generating compound and binder) and in the similar production steps (i.e. a substrate, a metal ion generating compound, and binder) used to produce the treated substrate.

Applicants respectfully contend that the rejection of claims 29-31, 33-41 and 43-48 lacks a showing of *prima facie* obviousness because the prior art fails to teach the problem or the source of the problem solved by the claimed invention. *In re Peehs*, 612 F.2d 1287, 204 USPQ 835 (CCPA 1980). In *Peehs*, the court held that to establish a *prima facie* case of obviousness where the advance in the art lies in the discovery of the problem or the source of the problem, the examiner would have to provide evidence that a person of ordinary skill in the art at the time

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of the invention would have expected a problem to exist. Furthermore, *In re Nomiya*, 509 F.2d 566, 572, 184 USPQ 607, 612 (CCPA 1975) stated, "Where there is no evidence of record that a person of ordinary skill in the art at the time of [an applicant's] invention would have expected [a problem],...it is not proper to conclude that [an invention], which solves this problem... would have been obvious to that hypothetical person of ordinary skill in the art. The significance of evidence that a problem was known in the prior art is, of course, that knowledge of a problem provides a reason or motivation for workers in the art to apply their skill to its solution."

Applicants' invention is directed to a substrate having a finish applied to the surface of the substrate, wherein said finish is durable to standard wash procedures. Applicants claim the feature of durability by the following limitation in claim 29:

"...wherein said finish is adhered to at least one portion of the surface of said substrate; wherein said at least one portion of said treated substrate retains at least about 50% of said finish after 10 washes as performed in accordance with the wash procedure of AATCC Test Method 130-1981;"

With regard to the problem solved by Applicants' claimed invention, Applicants' specification states (page 1, first paragraph):

"This invention relates to improvements in durable non-conductive metal-based treatments (such as coatings or finishes) for yarns and textile fabrics."

"The treatment is extremely durable on such substrates; after a substantial number of standard launderings and dryings, the treatment does not wear away in any appreciable amount and thus the substrate retains its antimicrobial activity (or other property). The method of adherence to the target yarn and/or fabric may be performed any number of ways, most preferably through the utilization of a binder system..."

Applicants' specification also states (bottom of page 4):

"It is thus an object of the invention to provide a simple manner of effectively treating a yarn, textile, or film with a wash-durable antimicrobial metal or metal-ion containing treatment."

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Applicants have also provided many examples which illustrate the durability of the finish on a treated substrate in Tables 1, 2 and 3 of the specification.

Thus, one can clearly see that Applicants have found a solution to the problem of providing a substrate having a durable finish comprised of metal compounds wherein said finish is applied to the surface of the substrate and the treated substrate can withstand multiple laundering cycles. That is, Applicants have provided a treated substrate having a finish comprised of solid metal compounds plus specific binder materials, wherein the finish is applied to the surface of the substrate and the finish is durable to multiple laundering cycles.

In contrast, Applicants respectfully submit that the combination of references fail to teach the problem solved by Applicants' claimed invention. More specifically, the combination of references fail to recognize the problem of providing a substrate having a metal-containing finish which is durable to multiple laundering cycles.

Rather, Yokozeki et al. teach the solution to a different problem. Yokozeki et al. state (col. 1, lines 43-56):

"...the present inventors have made an extensive study out to find out a method capable of sufficiently utilizing the excellent properties of pyroelectric minerals or amplifying the properties without using a pyroelectric mineral (which is expensive) in a large amount. As a result, the present inventors found out that when a pyroelectric substance (e.g. a pyroelectric mineral) is used in combination with a particular metal ion, the above-mentioned unique properties of the pyroelectric mineral are amplified; the amount of pyroelectric substance used can be reduced; and the pyroelectric substance, even when used in a reduced amount, can show, by stimulation of pressure points, sufficiently high effects in acceleration the blood circulation, promotion of metabolism..."

Thus, Yokozeki et al. is directed to finding a solution to the problem of providing a composition which can provide the desirable effects of increased blood circulation, etc., but that contains less of the pyroelectric material due to its high cost. The solution is found, at least partly, by combining a metal ion with the pyroelectric material.

Looking at the Ghosh reference, Ghosh states (col. 1, line 66 to col. 2, line 3):

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"The problem addressed by the present invention is to provide solid compositions of biocidal compounds that are safer to handle and provide controlled release of biocidal compounds once the composition is added to a locus to be protected."

Ghosh further states:

"When the biocidal composition of the present invention is a marine antifouling agent, the compositions of the present invention can be used to inhibit the growth of marine organisms by application of the compositions onto or into a marine structure." (col 6, lines 19-23).

"Suitable structures includes, but are not limited to: boats, ships, oil platforms, piers, pillings, docks, elastomeric rubbers, and fish nets." (col. 6, lines 29-31).

Thus, the Ghosh reference is directed to solid biocidal compositions which can be controllably released from treated marine structures.

Thus, Applicants respectfully submit that the combination of references does not teach the source of the problem solved by Applicants' claimed invention, wherein the source of the problem is providing a substrate having a finish which is durable to multiple laundering procedures. Applicants have solved this problem by adding a binder material selected from the group consisting of melamine-formaldehyde resins, acrylic resins, polyvinyl chloride/vinyl copolymers, and mixtures thereof to the metal-containing finish.

Accordingly, since the combination of references fail to teach the source of the problem solved by the claimed invention, Applicants respectfully contend that a *prima facie* showing of obviousness has not been established. Accordingly, Applicants respectfully request that the rejection of claims 29-31, 33-41 and 43-48 be withdrawn.

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Claims 32 and 42 were rejected under 35 U.S.C. 103(a) as being unpatentable over Yokozeki et al. (USPN 5,981,063) in view of Ghosh (USPN 6,149,927) and further in view of Sawan et al. (USPN 5,849,311).

The Examiner submits that while Yokozeki teaches the use of fibers as a substrate, no disclosure is provided to teach the use of a film substrate and looks to Sawan to supply that teaching. Thus, the Examiner contends that it would have been obvious to one of ordinary skill to have employed the binder and antimicrobial metal ion generating material disclosed by Yokozeki et al. to make a film substrate that can be ground down to form an antimicrobial powder suitable for use in antimicrobial creams.

Relying on the discussion presented above, Applicants respectfully submit that the rejection based upon the combination of Yokozeki et al. in view of Ghosh is improper, since this combination fails to teach the source of the problem solved by Applicants' claimed invention. Furthermore, since Sawan et al. fail to provide for the deficiencies of Yokozeki and Ghosh, Applicants respectfully submit that this rejection is also improper. Reconsideration and withdrawal of this rejection is respectfully requested.

Conclusion:

For the reasons set forth above, it is respectfully submitted that all claims now stand in condition for allowance.

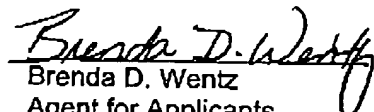
Should any issues remain after consideration of these Remarks, the Examiner is invited and encouraged to telephone the undersigned in the hope that any such issue may be promptly and satisfactorily resolved.

In the event that there are additional fees associated with the submission of these papers, authorization is hereby provided to withdraw such fees from Deposit Account No. 04-0500.

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